

**The Age of Balance Sheet Recessions:  
What Post-2008 U.S., Europe and China  
Can Learn from Japan 1990-2005**

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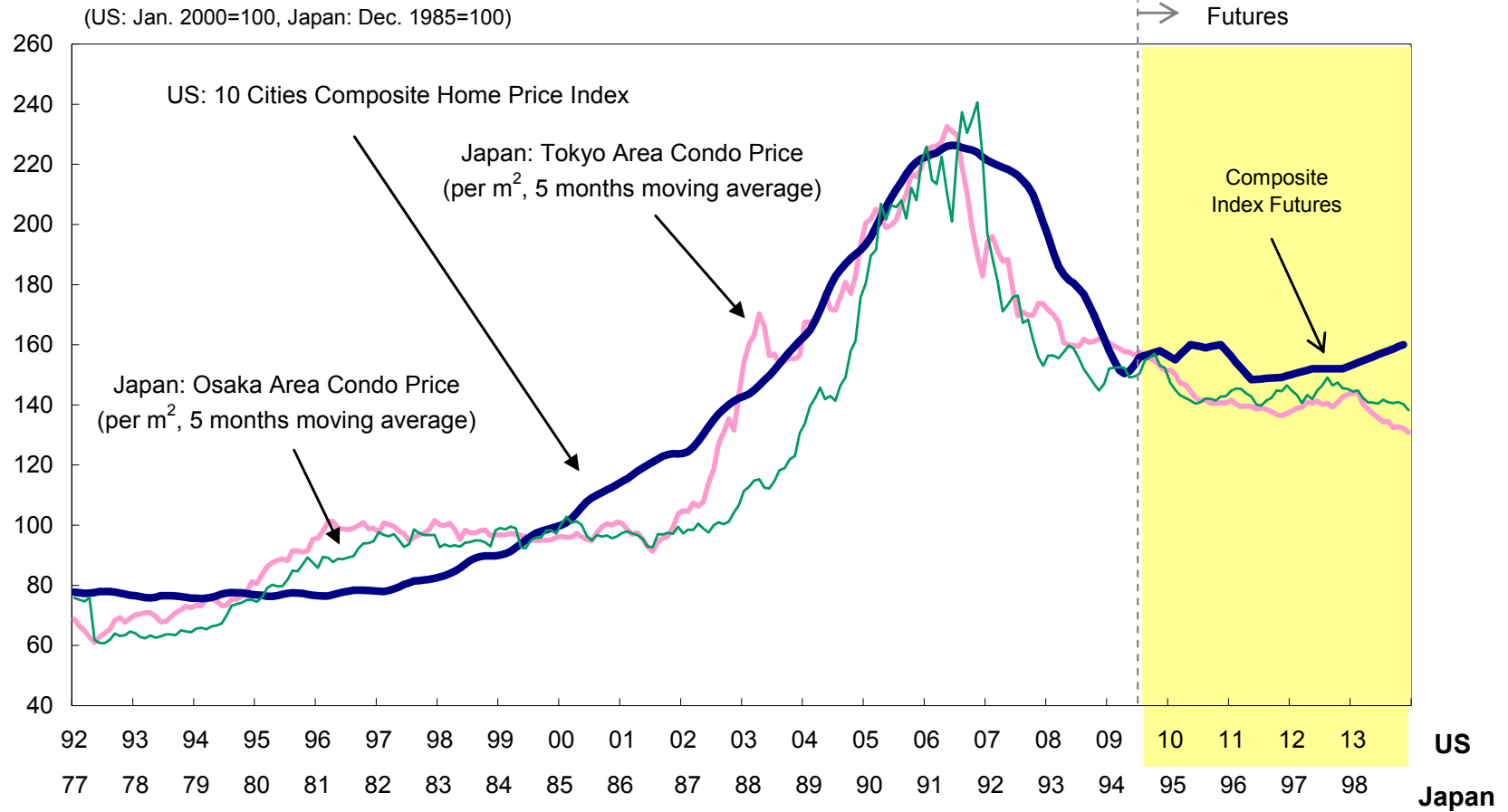
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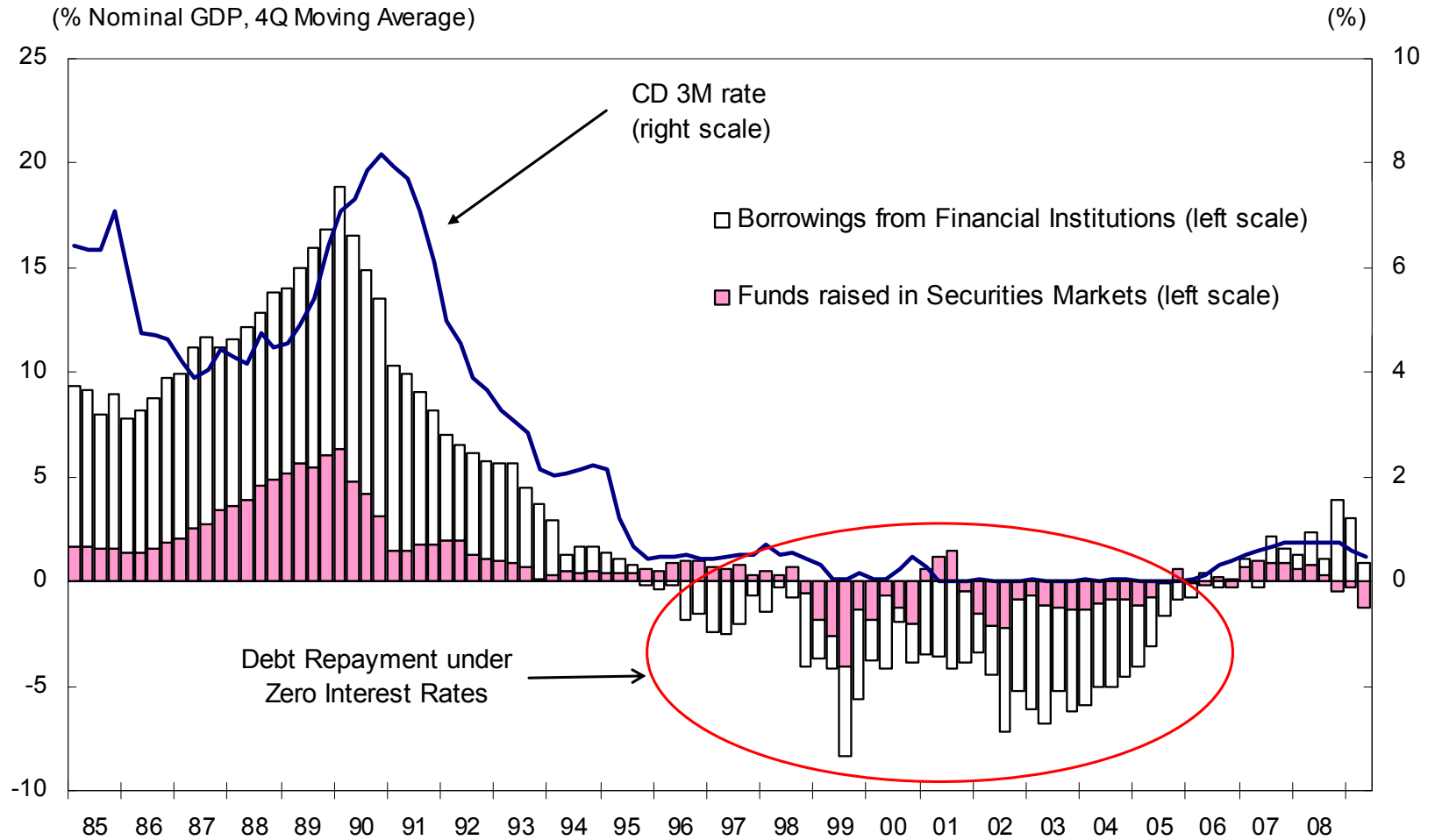
**October 2009**

# Exhibit 1. US House Prices Are Tracing the Japanese Experience



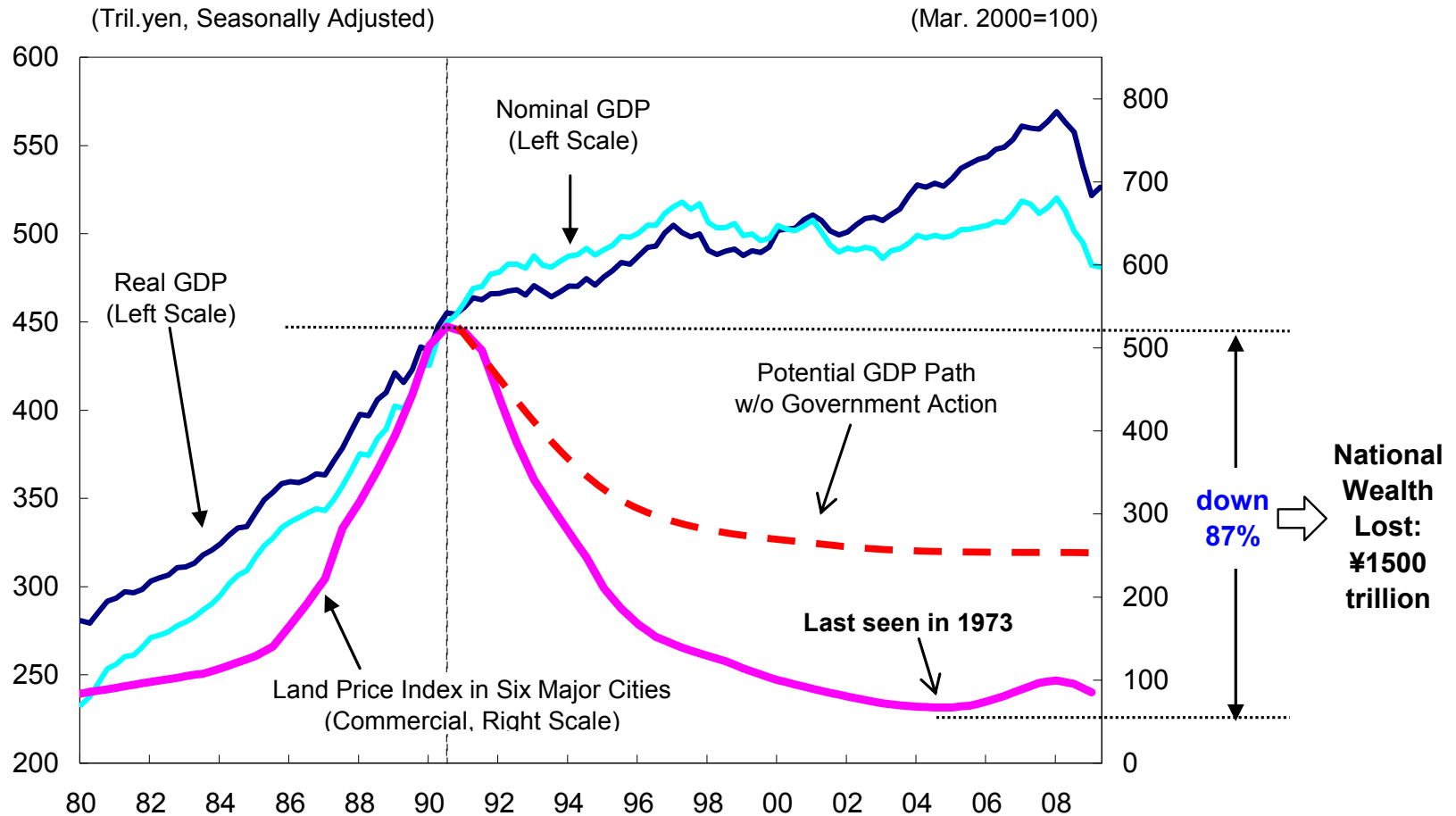
Sources: Bloomberg, Real Estate Economic Institute, Japan, S&P "S&P/Case-Shiller® Home Price Indices", as of Sep. 30, 2009.

## Exhibit 2. Japan Is no Stranger to De-leveraging



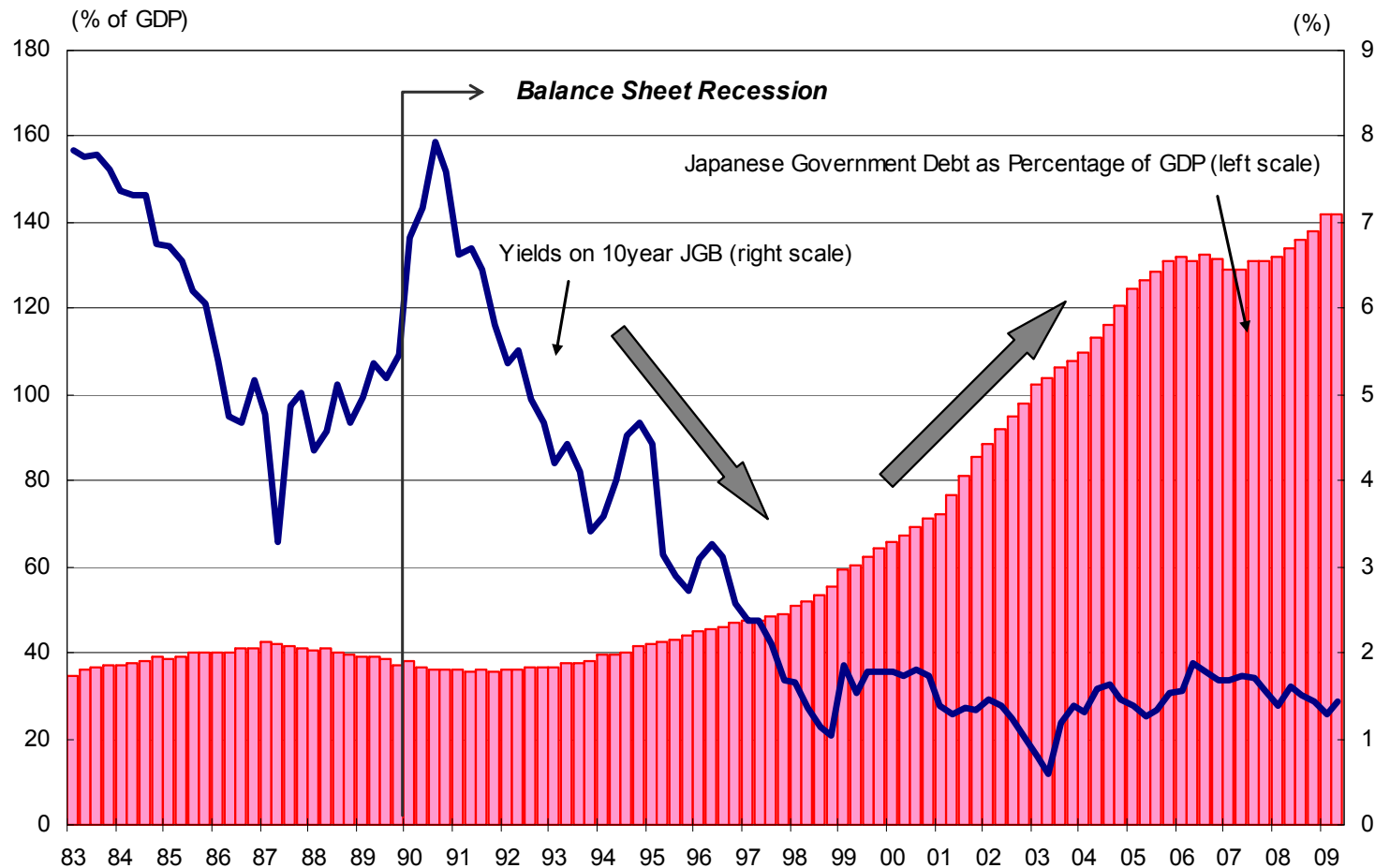
Sources: Bank of Japan, Cabinet Office, Japan

### Exhibit 3. Japan's GDP Stayed *Above* the Bubble Peak in spite of 87% Decline in Real Estate Values



Sources: Cabinet Office, Japan Real Estate Institute

## Exhibit 4. Large Deficit Does Not Mean Higher Interest Rates in a Balance Sheet Recession

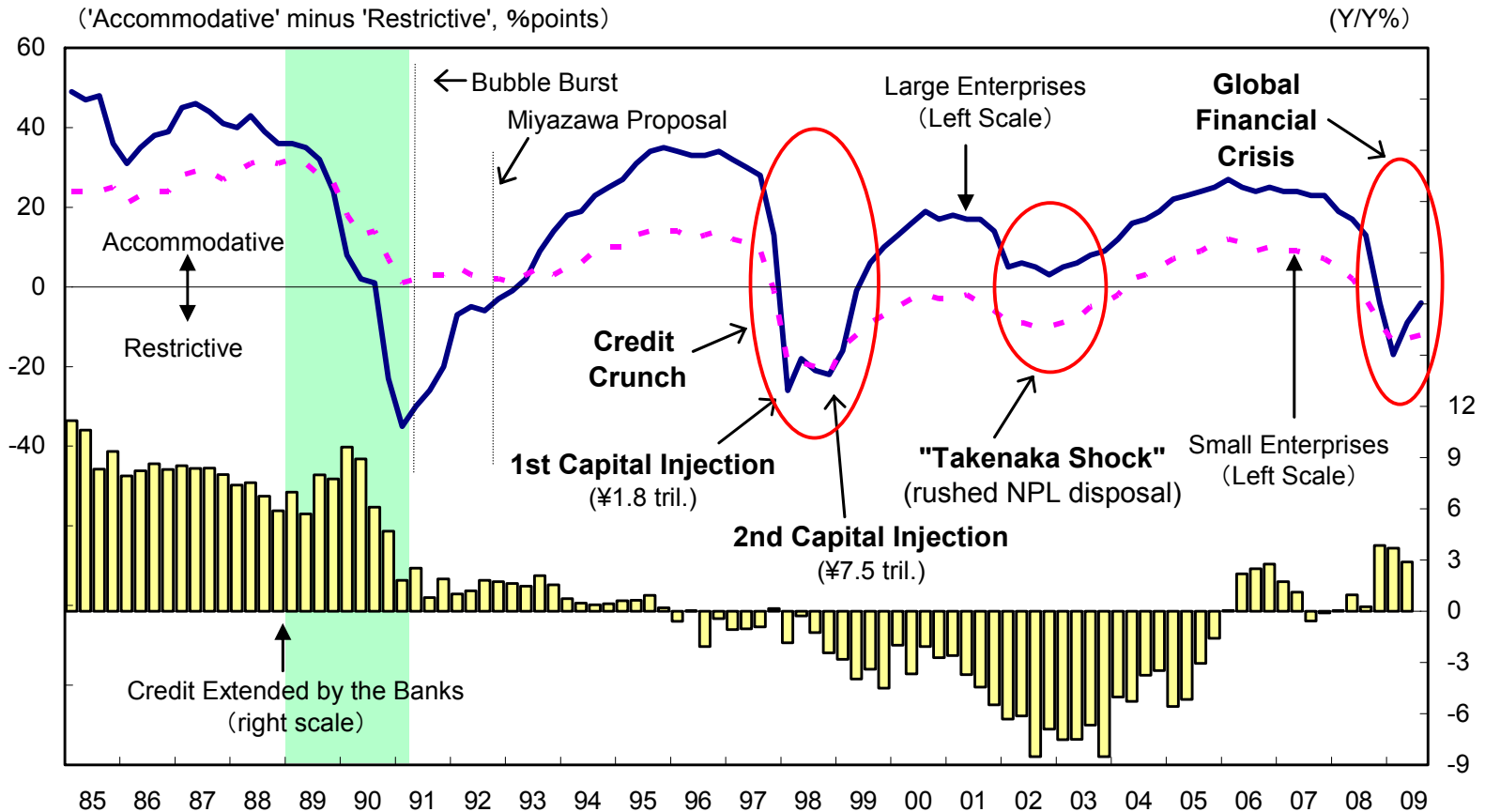


\* Household savings plus corporate debt repayment

Sources: Cabinet Office, Japan, Japan Bond Trading Co., Japan Securities Dealers Association

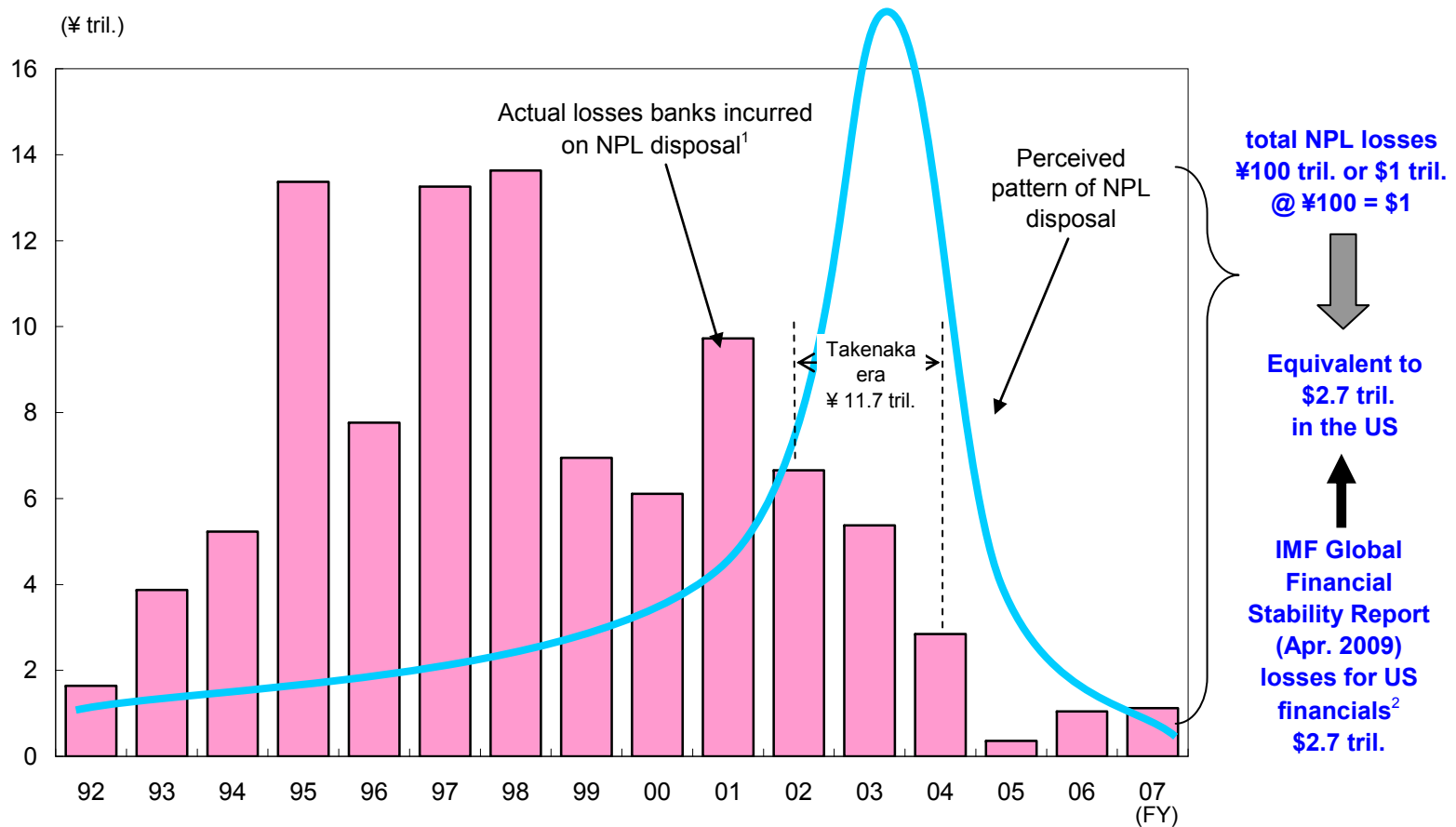
# Exhibit 5. Two Capital Injections Ended the Credit Crunch in Japan

**Bankers' Willingness to Lend as Seen by the Borrowers, and the Actual Credit Extended by the Banks**



(Shaded areas indicate periods of BOJ monetary tightening)  
 Sources : "Tankan", "Loans and Discounts Outstanding by Sector", BOJ

## Exhibit 6. The Bulk of Japan's NPLs Was Written Off before 2000



1: Includes commercial banks only; investment banks, insurance companies and other financial institutions are NOT included.

2: Includes all financial institutions including hedge funds.

Source: Financial Services Agency, Japan

## Exhibit 7. Contrast Between Yin and Yang Phases of a Cycle

		<b>Yang</b>	<b>Yin</b>
1) Phenomenon		Textbook economy	Balance sheet recession
2) Fundamental driver		Adam Smith's "invisible hand"	Fallacy of composition
3) Corporate financial condition		Assets > Liabilities	Assets < Liabilities
4) Behavioral principle		Profit maximization	Debt minimization
5) Outcome		Greatest good for greatest number	Depression if left unattended
6) Monetary policy		Effective	Ineffective (liquidity trap)
7) Fiscal policy		Counterproductive (crowding-out)	Effective
8) Prices		Inflation	Deflation
9) Interest rates		Normal	Very low
10) Savings		Virtue	Vice (paradox of thrift)
11) Remedy for Banking Crisis	a) Localized	Quick NPL disposal Pursue accountability	Normal NPL disposal Pursue accountability
	b) Systemic	Slow NPL disposal Fat spread	Slow NPL disposal Capital injection

Source: Richard Koo, *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*, John Wiley & Sons, Singapore, 2008